



AKANSHA KHANDELWAL, P.E., CFEI
SENIOR CONSULTANT

akhandelwal@engsys.com

Ms. Khandelwal is a Senior Consultant for Engineering Systems Inc. (ESi), where she works with the Structural and Civil Engineering team and Fire and Explosion Practice. She specializes in fire and explosion investigations, and hazard and risk assessments in chemical and petrochemical facilities. She has experience in large loss investigations, and assessing structures and equipment post event as part of incident investigations. Ms. Khandelwal is a Certified Fire and Explosion Investigator through The National Association of Fire Investigators (NAFI).

Ms. Khandelwal has over 15 years of experience performing assessment and design of structures for explosion and fire hazards for all building types. She is a licensed professional engineer in Texas and has performed new building design and retrofit of existing structures in petrochemical facilities in North America, South America, Europe, and Asia. In addition to buildings, Ms. Khandelwal has also evaluated process equipment, piping, fire-water tanks, and associated systems from explosion hazards as part of incident investigations, business interruption and emergency response studies. She also has experience performing fire & explosion risk assessments and safety, risk, and hazard evaluations for chemical processing facilities, including oil & gas. She has training in performing HAZOPs and PSM audits.

Ms. Khandelwal has led forensic evaluations of buildings for construction defects and extreme weather events. She has also performed post damage retrofit designs after extreme weather events. In addition, Ms. Khandelwal has performed investigations related to safety at construction job sites and is trained in OSHA safety requirements on construction sites.

Areas of Specialization

Fire and Explosion
Hazard & Risk Assessment
Chemical & Petrochemical
Construction Defects
Storm Damage Investigations
Commercial Structures
Safety

Education

M.S., Civil Engineering, University of Texas, 2007
B.S., Tech: Civil Engineering, Indian Institute of Technology, 2004

August 2025



Licensed Professional Engineer (P.E.)

State of Texas License No.108678

Certifications

Specialist in Safety and Health Construction Industry (SSH)
Specialist in Safety and Health General Industry (SSHGI)
NAFI Certified Fire and Explosion Investigator (CFEI)
Certified HAZWOPER (40 hours)

Professional Affiliations

Texas Society of Professional Engineers

Professional Member

American Society of Civil Engineers

Professional Member

American Institute of Steel Construction

Professional Member

Positions Held

Engineering Systems Inc. (ESi), Houston, Texas

Senior Consultant, 2021 - Present

Baker Engineering & Risk Consultants

Senior Project Engineer, 2007 – 2021

Baker Engineering & Risk Consultants, San Antonio, Texas

Intern, 5/2006 – 7/2006

Oracle India Ltd, Hyderabad, India

Application Engineer, 2004-2005

Continued Education

Occupational Safety & Health Standards for Construction

OSHA #510 – 2024

Safety and Health Management Program

OSHA #2455 – 2024

OSHA 8 Hour HAZWOPER Refresher

OSHA – 2023

Fall Protection

OSHA #3115 - 2023

Principles of Scaffolding

OSHA #3085 – 2023

Fire Investigation Training Program

NAFI - 2022

OSHA 30-hour Construction Industry

360 Training - 2022

HAAG Certified Reviewer – Level II

Design and Construction of Residential Foundations & Soil Materials Testing

Greater Houston Building Association 2022

Aerial and Scissor Lift

American Safety Council, 2022

Auditing Process Safety Management (PSM) Programs

PrimaTech 2021

PHA/HAZOP Facilitation

Baker Engineering & Risk Consultants, 2021

Practical Connection Design for Economical Steel Connections

AISC, 2010

Managing Projects

The University of Texas at Austin, 2009

40 hr HAZWOPER Training

Quality Safety Services Inc., 2008

32 hr Blast Resistant Structural Design Course

Baker Engineering & Risk Consultants, 2008

CFI Trainer Course – Residential Gas Systems

CFI Trainer Course – Residential Electrical System

CFI Trainer Course – Arc Mapping Basics

CFI Trainer Course – Electrical Safety

ESi Training – Fire Safety

ESi Training – Walking Work Surfaces

ESi Training – Electrical Safety

ESi Training – Ergonomics

ESi Training – Driver Safety

ESi Training – Back Safety

Publications & Presentations:

Khandelwal, A. and Smith, P. “A Strategic Approach to Occupied Building Risk Assessment”,

European Process Safety Council Webinar, March 2020, EPSC

Khandelwal, A. and Dyer, J. “New Building Siting Using Risk Based Approach”, 11th Global



Congress on Process Safety 2015, AIChE

Dyer, J. and Khandelwal, A. "Design of Buildings in Petrochemical Facilities – Risk Based Approach", 4th Process Safety Technical Exchange Meeting 2011, Saudi Aramco

Dyer, J. and Khandelwal, A. "Design of Connections Between Precast Elements for Ductile Behavior Subjected to Impulsive Loading", Hazards Asia Pacific Symposium 2011, IChemE

Training Provided:

Explosions: Understanding the Language of Destruction

Blast Resistant Structural Design

Single Degree of Freedom Analysis for Blast Design and Common Tools